

## ABSTRACT

PT. Thiess Contractors Indonesia is a company that taken in various services and construction such as mining services, mining construction, and several property projects in Indonesia. This company has handled several mining projects in Indonesia, one of them from Barito Pacific Group that is PT. Tamtama Perkasa Mining (PT. TPM) located in Muara Teweh, Central of Borneo.

The mining system applied in PT. TPM is surface mining. The target of coal production in PT. TPM is approximately 96.000 ton/month. PT. TPM divided the mining area become to pit that consist of two pits across from the North to the South, there are Pit 1 and Pit 2. The coal condition of all pits are multiple seams and the coal thickness is around 0,5 – 2,50 m with 68° of dip.

On observations made in the field found the problems associated with rock fragment size blasting results. Target average rock fragment passing percentages 80% in Pit 2 area is 40 cm, but the fact of average rock fragment passing percentages 80% resulting from the detonation of blasting in 6 locations still over than 40 cm that consist of 66 cm on location P2S2B27; 53 cm on P2S2B32; 81 cm on P2S2B29; 45 cm on P2S2B21; 50 cm on P2S1B32; 60 cm on P2S2B28. So, the boulder percentages produced on all location blasting still  $\geq 20\%$ .

With doing adjustment of the explosives from the powder factor, also changing of blasting geometry, hoped it can produce a good rock fragment. With changing the factors that caused the rock fragment doesn't reach, using Kuz-Ram's theory that are adding the density from 1,09 gr/cc to 1,15 gr/cc, increasing the powder factor from 0,27 Kg/m<sup>3</sup> to 0,29 Kg/m<sup>3</sup>, changing the blasting geometry of reducing the burden from 8 m to 6 m, spacing 9 m to 7 m, stemming 6 m to 4 m, it produce the rock fragment distribution that has 40 cm in size is 80,15%, meanwhile it is producing boulder 19,85%.

Keywords : rock fragment, passing percentages 80%, boulder percentages, blasting geometry, Kuz-Ram's teory